APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,284	03/01/2000	Brett A. Bernath	00CXT0330D	3468

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EXAMINER
SHANG, ANNAN Q

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 01/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/516,284	BERNATH ET AL.
	Examiner	Art Unit	
	Annan Q Shang	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _07 September 2004_.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _18-21, 23 and 26-37_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _18-21, 23 and 26-37_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments/amendments filed 09/07/04 have been fully considered but they are not persuasive.

With respect to claims 1, 2, 4-6 and 11-16, rejected under U.S.C. 102(e) as being anticipated by **Isono et al. (6,216,171)** and claims 17-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Isono in view **Sherer et al (6,434,165)**, applicant indicates traversing of the rejections and also cancels claims 1-17, 22, 24 and 25 without prejudice or disclaimer. Examiner, further notes of record pending claims 18-21, 23 and new claims 26-37.

With respect to claim 18, rejected under 35 U.S.C. 103(a) as being unpatentable over Isono in view of Sherer, applicant appears to argue that "Although the Examiner asserts at page 8 of the Office Action that 'a programmable media access controller is inherent in CM 9 since MAC-F/IP/TTL 31/33 filters are programmable to meet various data and addresses for the various devices on the LAN or CM 9, MPEP 2112 requires that the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics **necessarily** flows the teachings of the applied prior art. The Applicants note in this regard that the terms 'program' and 'programmable' are not even used in Isono, and further that the technical reason provided by the Examiner does not support the determination that the MAC-F/IP/TTL 31/33 filters must be programmable, much less that even if those filters were programmable that Isono would inherently include the 'programmable media

access controller' of claim 18. Simply because a device has an associated buffer in

which address can be stored for comparison with incoming data does not make the

device 'programmable.'"

In response, the examiner disagrees and maintains that the rejection made to

claim 18, was proper and met all the claimed limitations as indicated in the last office

action, since the claim required, "a microprocessor reading the index entry..." and

indicating the microprocessor as inherent to the cable modem (CM) 9 was proper and

met all the claimed limitations. Examiner, further maintains that MAC-F/IP/TTL 31/33

filters and the various elements within the CM are programmable, and although Isono

fails to explicitly use the terms such as "program" or "programmable" the technical

reasoning is seen from the figures and the final output data of the CM 9. CM 9 is an

intelligent or programmable terminal which receives data, continuously processes and

manages data (including comparing data, discarding data, adding data, etc., note the

feeding back of data to the various elements of CM 9 and furthermore this processes

involves making decisions, performing calculations, etc.,) to achieve plurality of

acceptable data patterns at the CM, where the plurality of acceptable data patterns are

transmitted from the CM 9 to the various home devices, such as TVs, PCs, etc.,

connected to home local area network. Examiner, further maintains that Isono discloses

the new claimed limitation "programmable media access controller," met by

DHCP/DNS/SNMP Units 32, (which receives data from media access control (MAC)

Filter 32 and IP/TTL Filters 33 and 36 and outputs data to (MAC) Address Adders 34

and 37) for the same reasons discussed above. Furthermore, MAC is well known to

perform functions such as, managing access to the physical network, delimiting frames,

handling error control, etc.

With respect to the claimed "a CRC engine performing CRC processing..."

although Isono MAC performs error checking, Isono is silent to the use of the claimed

"CRC engine..." which is disclosed in Sherer's reference. Applicant's amended claims

and newly added claims do not overcome the prior arts of Isono in view of Sherer,

Claims, 18-21 and 23 and the newly 26-37 have been discussed below. The

cancellation of claims and amendment to independent the claim 18, necessitated the

new grounds of rejections with the same references Isono in view of Sherer, hence this

office action is made Final.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 18-20 and 26-30, are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Isono et al (6,216,171)** in view of **Sherer et al (6,434,165).**

As to claim 18, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN, the cable modem comprising:

the claimed "a pattern matching engine receives a pattern and a data stream and

generating an index entry if the pattern is present in the data stream" is met by

MAC-Filter (MAC-F) 31 and Internet-Protocol-Filter/Time-to-Live (IP/TTL) filters 33,

(MAC-F/IP/TTL) Filters 31/33 (figs. 1, 2, col. 3, lines 39-50 and col. 4, lines 1-25), note

that destination addresses and data (data), received at the first Interface of CM 9,

contains bit or byte length or patterns of data and the MAC-F/IP/TTL 31/33 "a

programmable pattern matching engine" generates an index entry of bit or byte length

or patterns of data that are present in the data stream, compares the bit or byte length

or patterns of data, to the store bit or byte length or patterns of data, where MAC-

F/IP/TTL 31/33 automatically configures itself to the various data that are being received

and extracts each media and destination address and outputs the extracted data to

dynamic-host configuration-protocol/domain-naming-system/simple-network

management-protocol (DHCP/DNS/SNMP) units 32 "programmable media access

controller" which determines to continue receipt of the data stream, and further

manages and monitors nodes in the network and executes a process for responding to

an inquiry on its condition from the head end (col. 3, lines 64-67).

Isono further teaches MAC Adder 34, which adds address to data received if the

DHCP/DNS/SNMP Units 32, determines to continue receipt of the data stream (col. 4,

lines 1-14). Although is well known in the art that MAC manages access to the physical

network, delimits frames and performs error checking, Isono is silent to the use of the

claimed "CRC engine performing CRC processing of the received data frame..."

However, note the **Sherer et al** reference figure 4, discloses a communications

network system that transmits and receives communication frames, where a CRC is

couple to MAC in a cable modem system, for calculating the CRC value based upon the

received information for a match or valid and invalid frame based on CRC value, (figs.

1, 4, col. 4, line 61-col. 5, line 13 and col. 7, lines 56-col. 8, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to incorporate the teaching of Sherer into the system of Isono to provide

CRC checker to determine valid and invalid frames and process the frames accordingly.

As to claim 19, Isono further disclose where the patterns in the data comprise

one or more of MAC address, an IP address and a protocol identifier of an MPEG frame

(fig. 1 and col. 5, line 44-col. 6, line 8 and lines 33+).

As to claim 20, Isono further discloses where CM 9 includes one or more logical

link control filtering, protocol filtering and security ID filtering in a Multimedia Cable

Network System (col. 3, lines 39-56, line 64-col. 4, line 25 and col. 5, lines 10-54).

As to claim 26, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN, the cable modem comprising:

the claimed "a programmable media access controller," dynamic-host

configuration-protocol/domain-naming-system/simple-network management-protocol

(DHCP/DNS/SNMP) units 32 "programmable media access controller" which

determines to continue receipt of the data stream, manages and monitors nodes in the

network and executes a process for responding to an inquiry on its condition from the

head end (figs. 1, 2, col. 3, lines 39-56 and line 64-col. 4, line 25);

the claimed "a programmable pattern matching engine that is programmed by the

media access controller," is met by MAC-Filter (MAC-F) 31 and Internet-Protocol-

Filter/Time-to-Live (IP/TTL) filters 33, (MAC-F/IP/TTL) Filters 31/33 (figs. 1, 2, col. 3,

lines 39-50 and col. 4, lines 1-25) note that destination addresses and data (data),

received at the first Interface of CM 9, contains bit or byte length or patterns of data and

the MAC-F/IP/TTL 31/33 "a programmable pattern matching engine" generates an index

entry of bit or byte length or patterns of data that are present in the data stream,

compares the bit or byte length or patterns of data, to the store bit or byte length or

patterns of data, where MAC-F/IP/TTL 31/33 automatically configures itself to the

various addresses that are being received, extracts each media and destination address

and delivers data to each device, connect to the home network, accordingly.

Isono further teaches MAC Adder 34 which adds address to data received if the

DHCP/DNS/SNMP Units 32, determines to continue receipt of the data stream (col. 4,

lines 1-14). Although is well known in the art that MAC manages access to the physical

network, delimits frames and performs error checking, Isono is silent to the use of the

claimed "CRC engine performing CRC processing of the received data frame..."

However, note the **Sherer et al** reference figure 4, discloses a communications

network system that transmits and receives communication frames, where a CRC is

couple MAC in a cable modem system, for calculating the CRC value based upon the

received information for a match or valid and invalid frame based on CRC value, (figs. 1, 4, col. 4, line 61-col. 5, line 13 and col. 7, lines 56-col. 8, line 8).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Sherer into the system of Isono to provide CRC checker to determine valid and invalid frames and process the frames accordingly.

As to claim 27, Isono further discloses where the MAC-F/IP/TTL Filters 31/33 matches address segments of the data that is received at the first interface of CM 9 (col. 5, lines 41-col. 6, line 8).

As to claim 28, Isono further discloses where the MAC-F/IP/TTL Filters 31/33 enables determination of whether to accept a frame at CM 9 quicker than if the CM 9 were required to wait on processing at DHCP/DNS/SNMP units 32 which includes a central microprocessor (col. 3, lines 39-50 and col. 4, lines 1-25), note that MAC-F/IP/TTL Filters 31/33 processes the addresses and associated data and outputs the acceptable parameters to DHCP/DNS/SNMP units 32 and MAC-AA 34 for further processing.

As to claims 29 and 30, Isono further discloses where MAC-F/IP/TTL Filters 31/33 enables pattern matching of various length frame portions for the various devices on the LAN, which includes Personal Computer 12-1 to 12-n, Home Terminal 13-1, TV 14-1, etc., (fig. 1, col. 5, lines 44-65 and col. 6, lines 39-67), where the various length frame portions are selected from bit length, byte length, etc., (col. 5, lines 19-40).

4.   Claims 31-37, are rejected under 35 U.S.C. 103(a) as being unpatentable over

Isono et al (6,216,171) in view of **Enns et al (6,658,010).**

As to claim 31, note the **Isono et al** reference figures 1 and 2, disclose cable

modem control method giving priority to packets from the cable head end over packets

from the subscriber LAN and further disclose method of receiving data comprising:

the claimed "determining two or more acceptable parameters for data frames that

are received," and "programming at least one of the acceptable parameters into a

pattern matching engine," and met by MAC-Filter (MAC-F) 31 and Internet-Protocol-

Filter/Time-to-Live (IP/TTL) filters 33, (MAC-F/IP/TTL) Filters 31/33 (figs. 1, 2, col. 3,

lines 39-50 and col. 4, lines 1-25), which receives destination addresses and data

frames and determines two or more acceptable parameters for the data frames received

at the first Interface of CM 9, note that data frames contains bit or byte length or

patterns and the MAC-F/IP/TTL Filters 31/33 is a programmable pattern matching

engine that determines acceptable bit or byte length or patterns "data" that are present

in the data stream, parsing the data frame(s) to obtain a predetermined portion and

comparing the predetermined portions of the bit or byte length or patterns of addresses,

to the store bit or byte length or patterns of addresses (col. 5, line 40-col. 6, line 14, col.

7, line 1-35 and line 36+), where MAC-F/IP/TTL Filters 31/33 automatically configures

itself to the various addresses and data that are being received and extracts each

media and destination address and outputs the extracted data to dynamic-host

configuration-protocol/domain-naming-system/simple-network management-protocol

(DHCP/DNS/SNMP) units 32, which determines to continue receipt of the data stream,

manages and monitors the nodes in the network and delivers data to each device,

connect to the home network, accordingly (col. 3, lines 64-67).

Isono fails to explicitly teach DES/CRC engine which processes the data frames.

However, note the **Enns et al** reference figure 1, discloses high-speed Internet

access system with Remote Terminal or Cable Modem 22, which includes DES and

CRC engine which processes the received data (col. 5, lines 55-65 and col. 13, lines

33-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to incorporate the teaching of Enns into the system of Isono to provide

DES engine for data encryption to allow selective restriction access to the users and

CRC checker to determine valid and invalid frames and process the frames accordingly.

As to claim 32-34, Isono further discloses registering the result of the comparison

in a suitable format in DHCP/DNS/SNMP Units 32 or MAC-F/IP/TTL Filters 31/33, for

access by a microprocessor inherent to DHCP/DNS/SNMP Units 32 or MAC-F/IP/TTL

31/33 Filters (col. 4, lines 1-28 and lines 52-65), reading the results to determine

whether to drop or accept the data frame that has been received (col. 6, lines 57-col. 7,

line 18 and lines 36-55), and where the predetermined portion of the data frame is an

address portion of the data frame (figs. 4, 6-8, col. 3, lines 39-56 and col. 5, lines 19-40

and col. 6, lines 39-67) note that the SNMP unit of CM 9 executes a process for

managing and monitoring nodes in the network and responds to inquiries on conditions

from the headend (col. 3, line 64-66),

As to claim 35, Isono further discloses where the patterns in the data comprise one or more of MAC address, IP address, and a protocol identifier (PID) of an MPEG frame (col. 3, lines 39-56, line 64-col. 4, line 25, col. 5, line 44-col. 6, line 8 and lines 33+).

As to claim 36, Isono further discloses the claimed "logical link control (LLC) filtering, security filters and protocol identifier (PID) filtering," are met by MAC-F/IP/TTL 31/33 Filters and IP/TTL filters 36 (col. 3, lines 39-56, line 64-col. 4, line 25 and col. 5, lines 10-54)

Claim 37 is met as previously discussed with respect to claim 31.

5.   Claims 21 and 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over **Isono et al (6,216,171)** in view of **Sherer et al (6,434,165)** as applied to claim 18 above, and further in view of **Enns et al (6,658,010)**.

As to claim 21, Isono as modified by Sherer further teaches DMA Controller or processors coupled to DHCP/DNS/SNMP Units 32 and MAC-F/IP/TTL 31/33 filters, a channel control which facilitate movement of data in CM 9, between DHCP/DNS/SNMP Units 32 and MAC-F/IP/TTL 31/33 filters (col. 3, lines 39-55 and col. 4, lines 1-28) and the CRC engine of Sherer, note that the DMA or channel controller is within DHCP/DNS/SNMP Units 32. Isono as modified by Sherer, fail to explicitly teach DES/CRC.

However, note the **Enns et al** reference figure 1, discloses high-speed Internet access system with Remote Terminal or Cable Modem 22, which includes DES and

CRC engine which processes the received data (col. 5, lines 55-65 and col. 13, lines 33-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teaching of Enns into the system of Isono as modified by Sherer to provide DES engine for data encryption to allow selective restriction access to the users.

Claim 23 is met as previously discussed with respect to claim 21.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kwan (6,504,838) disclose voice and data exchange over a packet based network with fax relay spoofing.

Gorman et al (6,137,793) disclose reverse path multiplexer for use in high speed data transmissions.

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-**

2156. The examiner can normally be reached on **700am-500pm**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone number

for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the **Electronic**

Business Center (EBC) at 866-217-9197 (toll-free).

Annan Q. Shang.
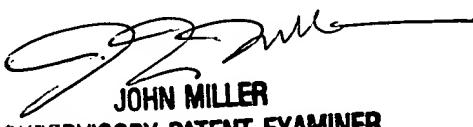
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